

## StrataGrid Geogrid

| Geogrid and Direction (MD, CD)                         | Polymer (PET, HDPE, PP) | Aperture Size (inches)  | T <sub>ult</sub> (lb/ft) | T <sub>2%</sub> (lb/ft) | T <sub>5%</sub> (lb/ft) | J <sub>ave</sub> (lb) | J (m-N/deg) | RF <sub>CR</sub> |                |                 | RF <sub>D</sub> |
|--|-------------------------|-------------------------|--------------------------|-------------------------|-------------------------|-----------------------|-------------|------------------|----------------|-----------------|-----------------|
|  |                         |                         |                          |                         |                         |                       |             | 3-yr             | 75-yr          | 100-yr          |                 |
|  |                         |                         |                          |                         |                         |                       |             | 26280 hrs        | 657000 hrs     | 876000 hrs      |                 |
|  |                         |                         |                          |                         |                         |                       |             | 4.419<br>62536   | 5.8175<br>6537 | 5.94250<br>4106 |                 |
| SG 550 (MD)  | PET                     | (0.85 / 0.35)<br>x 0.95 | 7800                     |                         |                         |                       |             | 1.43             | 1.54           | 1.55            | 1.30            |
| <b>Borrow (<math>\phi = 30^\circ</math>)</b>           |                         |                         |                          |                         |                         |                       |             |                  |                |                 |                 |
| Geogrid and Direction (MD, CD)                         | RF <sub>ID</sub>        | RF                      |                          |                         | T <sub>al</sub> (lb/ft) |                       |             | C <sub>i</sub>   | F*             | C <sub>ds</sub> | $\phi$ (deg)    |
|  |                         | 3-yr                    | 75-yr                    | 100-yr                  | 3-yr                    | 75-yr                 | 100-yr      |                  |                |                 |                 |
| SG 550 (MD)  | 1.1                     | 1.57                    | 2.20                     | 2.22                    | 4959                    | 3542                  | 3519        | 0.8              | 0.462          | 0.8             | 24.79           |
| <b>Fine Aggregate (<math>\phi = 34^\circ</math>)</b>   |                         |                         |                          |                         |                         |                       |             |                  |                |                 |                 |
| Geogrid and Direction (MD, CD)                         | RF <sub>ID</sub>        | RF                      |                          |                         | T <sub>al</sub> (lb/ft) |                       |             | C <sub>i</sub>   | F*             | C <sub>ds</sub> | $\phi$ (deg)    |
|  |                         | 3-yr                    | 75-yr                    | 100-yr                  | 3-yr                    | 75-yr                 | 100-yr      |                  |                |                 |                 |
| SG 550 (MD)  | 1.15                    | 1.64                    | 2.30                     | 2.32                    | 4743                    | 3388                  | 3366        | 0.8              | 0.5396         | 0.8             | 28.35           |
| <b>Coarse Aggregate (<math>\phi = 38^\circ</math>)</b> |                         |                         |                          |                         |                         |                       |             |                  |                |                 |                 |
| Geogrid and Direction (MD, CD)                         | RF <sub>ID</sub>        | RF                      |                          |                         | T <sub>al</sub> (lb/ft) |                       |             | C <sub>i</sub>   | F*             | C <sub>ds</sub> | $\phi$ (deg)    |
|  |                         | 3-yr                    | 75-yr                    | 100-yr                  | 3-yr                    | 75-yr                 | 100-yr      |                  |                |                 |                 |
| SG 550 (MD)  | 1.35                    | 1.93                    | 2.70                     | 2.72                    | 4040                    | 2886                  | 2867        | 0.8              | 0.6250         | 0.8             | 32.01           |

Where,

- T<sub>ult</sub> = wide width tensile strength @ ultimate (lb/ft),
- T<sub>2%</sub> = wide width tensile strength @ 2% strain (lb/ft),
- T<sub>5%</sub> = wide width tensile strength @ 5% strain (lb/ft),
- J<sub>ave</sub> = average junction strength per rib (lb),
- J = aperture stability modulus (m-N/deg),
- RF<sub>CR</sub> = creep reduction factor for 3, 75 and 100-year design life,
- RF<sub>D</sub> = durability (degradation) reduction factor,
- RF<sub>ID</sub> = installation damage reduction factor,
- RF = RF<sub>ID</sub> × RF<sub>CR</sub> × RF<sub>D</sub> for 3, 75 and 100-year design life,
- T<sub>al</sub> = short-term design strength for 3-year design life (lb/ft) = T<sub>ult</sub>  $\frac{1}{1+0.002\phi}$  (RF<sub>ID</sub> × RF<sub>CR</sub>) or LTDS for 75 and 100-year design life (lb/ft) = T<sub>ult</sub>  $\frac{1}{1+0.002\phi}$  RF,
- C<sub>i</sub> = coefficient of interaction,
- F\* = pullout resistance factor = C<sub>i</sub> tan  $\phi$ ,
- C<sub>ds</sub> = coefficient of direct sliding and
- $\tan \phi$  = soil-geogrid friction angle (deg) = C<sub>ds</sub> tan  $\phi$ .